DAMAGING DISEASES AND INSECTS
on
Monongahela National Forest

Neither disease nor insects has been serious from the standpoint of timber loss on the Forest. The following lists were compiled from a state-wide ongoing Forest Pest Survey by the West Virginia Department of Agriculture. Alan R. Miller, Forest Entomologist, compiled the original entomology list and S. Clark Haynes, Forest Pathologist, the original disease list. William MacDonald, Forest Pathologist, West Virginia University, contributed substantially to the disease list; and Linda Butler, Entomologist, West Virginia University, and Robert Acciavatti, Forest Entomologist, U. S. Forest Service, aided with the insect list.

The information provided represents the best available. However, the extensive nature of the survey and the cyclic nature of several insects contribute to the problem of obtaining accurate data.

The purpose of this report is simply to present the damaging insects and parasitic diseases which have recently affected Forest trees, and to show the relative importance of the pests by type, as well as their location on the Forest.

In each list the organisms are listed from most damaging to least damaging, based on damage during the recent past.

DISEASE

1. Decay and discolorations

Decay and discolorations are the most important disease considerations on the Forest. A wide variety of fungi are responsible for both brown and white rots. Most commonly, decay is a carry over from the parent stump to sprouts. Branch stubs, fire scars and logging injury are other entry courts. Such decay occurs throughout the Forest, although some types may be more localized depending upon the host species occurrence. Some of the more common decay fungi follow:

Inonotus obliquus (Poria obliqua).[1] A common rotter of yellow birch especially at higher elevations. Mainly in Association PH1.

[1] Older, more recognizable names are in parenthesis. Current accepted name for these basidiomycetes is without parenthesis.

Inonotus (Polyporus) hispidus - a rotter of oaks that also can cause stem deformity. Found throughout Forest, but most common in Associations RVh and RVm.

Fomitopsis (Fomes) pinicola - commonly called the "red belt fungus" this decayer causes defect in red spruce and other conifers and hardwoods. Occurs throughout Forest.

Fomes fomentarius - common white rotter especially of birch. Occurs mainly in Allegheny Plateau Associations.

Phellinus (Fomes) pini - most commonly associated with white pine branch stubs. Most common in Association RVm.

Ganoderma (Fomes) applanatus - Perhaps the most umbiquitous decayer of hardwoods and conifers, commonly referred to as the "artist's conk". Found throughout the Forest, but most prevalent in Allegheny Plateau Associations.

Lactoporus (Polyporus) sulphureus - a bright-orange, showy fungus that causes root and butt rot particularly of oaks. Found throughout the Forest.

2. Cankers

Canker diseases are caused by organisms infecting bark and cambial regions of the trees. The resultant infection causes stem deformity and thus degrade. Cankers typically produce entry courts for decay fungi and weak points where breakage can occur. Canker diseases, as a group, are widely distributed throughout the Forest, although individual diseases may be more limited depending upon host species occurrence. Some of the more common ones follow:

Nectria Canker, caused by Nectria sp., is a common disease of birch, walnut and sassafras throughout the Forest. This canker disease is responsible for reducing the merchantable volume of affected timber. Found throughout the Forest.

Strumella Canker, caused by Strumella coryneoidea, is a frequently observed canker problem of oak trees in the Forest. Affected timber is frequently rendered worthless. Present in all Associations.

Black Knot of Cherry, caused by Apiosporia (Diobotryon) morbosum, is a common disease of black cherry throughout the National Forest. This disease appears to be more severe on the poor sites, but seldom causes death of the trees. Most common on Allegheny Plateau Associations.

Eutypella Canker, caused by Eutypella parasitica, is a common canker disease of maple trees throughout the Forest. This disease is damaging only when stands contain a high proportion of sugar maple. In Allegheny Plateau Associations.

Chestnut Blight caused by the fungus Endothia parasitica is found wherever American chestnut sprouts occur. This disease is responsible for the loss of the chestnut as a timber species on the Forest and throughout the eastern United States. Throughout the Forest. Most common in Associations PHm and PH1.

3. White Pine Blister Rust

This rust, caused by Cronartium ribicola, is a fairly common disease throughout the natural range of white pine in the Forest. Past control efforts have greatly reduced losses by this disease. Association RVm has received the greatest damage.

4. Oak Wilt

This disease caused by the fungus Ceratocystis fagacearum has not been a serious problem on the Forest, but it has the potential to cause serious loss of oak. Greatest mortality has been in Pendleton, Grant and Greenbrier Counties. Mainly in Ridge and Valley Associations.

5. Root Rots

This type of disease is of little importance on the Forest as a whole. The more common rots follow:

Annosus Root Rot is caused by the fungus Heterobasidium annosum (Fomes annosus). It has been found in conifer plantings in Grant County (Clover Lick Run), and on private lands in Pocahontas and Greenbrier Counties. In Association TRs.

Shoe-String Root Rot, caused by Armillariella (Armillaria) mellea, is extremely common to the entire Forest, as well as throughout the World. It is considered only a secondary invader especially in the hardwood types where it has the potential to kill weakened trees. Found throughout the Forest.

White Pine Root Decline is caused by the fungus Verticiladiella procera. Its role in the natural Forest is unknown. It has been found on Christmas trees and young ornamental plantings to date.

6. Dutch Elm Disease

This disease, caused by the fungus Ceratocystis ulmi, is not important on the Forest although it can probably be found in the few places elms are located.

7. Foliar Diseases

Many different fungi can cause damage to leaves and twigs throughout the Forest, but the damage is not serious. As a group the anthrachoses (incited primarily by Gnomonia spp.) are the most damaging with hosts mainly sycamore and oaks. Damage is minor. Found in all Associations.

INSECTS

1. Oak Leaftier

The Oak Leaftier Croesia albicomana occurs in the Pocahontas, Greenbrier County area and in some years has caused heavy defoliation to as many as 200,000 acres of oaks. The insect seems to cycle every 2 years. Mortality from the oak leaftier has occurred in the Watoga area of Pocahontas County. On some low quality sites supporting oak-white pine stands, the insect has caused the species composition to change to white pine. The damage results from a combination of weather and the insects, and is known as Staley's Complex. It is present in Associations RVh, RVm, and eastern TRd.

2. Pine Leaf Chermid

The pine leaf chermid Pineus pinifoliae can be found on red spruce and white pine in the higher elevations of the Forest. The damage to red spruce is in the form of a pineapple shaped gall on shoots, and in young white pine the growth may be stunted and the trees may become off-color or yellow. The insect has been present for many years with little damage to red spruce. The white pine has suffered somewhat from repeated attacks, especially seedlings and pole size trees. Mainly in Association PH1.

3. Fall Cankerworm

Fall Cankerworm Alsophila pometaria. This insect occurs in the Dolly Sods, Mount Storm area and caused several thousands acres of defoliation to hardwoods in 1975 and 1976. The insect collapsed in 1977 due to an egg parasite which attacks cankerworm. The area is monitored annually for any indication of build-up. In Association PHm.

4. Asiatic Oak Weevil

The Asiatic Oak Weevil Crytepistomus castaneus can be found in the Thornwood area of Pocahontas County and caused several hundred acres of defoliation to oaks in 1977. Defoliation has been prevalent the past several years. In southern TRd and northern RVm Associations.

5. Linden Looper

The Linden Looper Erannis tiliaria has been found causing damage to yellow birch and maple on Middle Mountain in the Forest. The greatest damage that occurred was in the early 70's and only lasted for one season. Mainly in Association TRd.

6. Cherry Scallop Shell Moth

The Cherry Scallop Shell Moth Calacope undulata is common on black cherry throughout the Forest and has been for several years. To date no large outbreaks have occurred. Mostly in Association TRd.

7. Locust Leaf Miner

The Locust Leaf Miner Xenochalepus dorsalis has never been abundant on the Forest, but the insect is increasing and the black locust trees in the lower elevations are experiencing defoliation. Mainly in Association RVh and on strip mined areas off the Forest property.

8. Locust Borer

The Borer Megacyllene robiniae can be found within the Forest boundary causing damage to black locust stems on dry, low quality sites and on strip mines off Forest property. Most common in Association RVh.

9. Mountain Ash Sawfly

This Sawfly Pristiphora geniculata is common in the Dolly Sods area and in past years has caused complete defoliation of mountain ash. In Association PHm.

10. Fall Webworm

The Fall Webworm Hyphantria cunea can be found throughout the Forest on all species of trees, but so far has caused no damage. In all Associations.

11. Eastern Tent Caterpillar

This insect Malacosoma americana is fairly abundant in the lower elevations where it feeds upon black cherry. Few trees are affected in the higher elevations.

12. Zimmerman Pine Shoot Moth

This Shoot Moth Dioryctria zimmermani caused damage to red pine at Lake Sherwood in the southern part of the Forest in the late 1960's, but no damage has been recorded since that time. Mainly in Association RVm.

13. Forest Tent Caterpillar

The Forest Tent Caterpillar Malacosoma disstria can be found throughout the Forest, but no damage is known. Present in all Associations.

14. Walking Stick

The Walking Stick Diapheromera femorata can be found on the Forest, but no defoliation has occurred. However, this insect has caused defoliation to oaks in Grant County near the northern border of the Forest. Present in Assoications RVh and RVm. Rare in other Associations.

15. Heterocampa

Seven members of the genus Heterocampa (Lepidoptera) are common throughout the Forest being associated primarily with oak and maple. Damage has not been reported, but these insects are potential defoliators.

16. Gypsy Moth

This Moth Porthetria dispar does not properly belong on this list because it is not present on the Forest at this time. However, it has been spreading south and west from the northeast and now has been reported in extreme eastern West Virginia and extreme northwestern Virginia. The possibility is very real that the insect will move into the Forest and severely damage our hardwood Forests by continued defoliation if control measures, now in progress, are not successful.

May 4, 1981
1380

Gus Tryon
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West Virginia University
Morgantown, WV 26505

Dear Gus:

I appreciated receiving a copy of your report entitled, "Damaging Diseases and Insects on the Monongahela National Forest." It will be kept on file with us as an aid to planning program activities with the Monongahela.

Sincerely,

ROBERT E. ACCIAVATTI
Entomologist
Forest Pest Management

REACCIAVATTI:ham

10/20/57

Helen,
Please make 1 copy for me, return & and original.
Thanks
Bob